U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: FIRE DEPARTMENT RESPONSIBILITY IN PROTECTING EVIDENCE AT THE SCENE OF AN AIRCRAFT ACCIDENT

Date: 4/8/85
Initiated by: AAS-100

AC No: 150/5200-12A
Change:

1. PURPOSE. This advisory circular (AC) furnishes general guidance for airport employees, airport management and other personnel responsible for firefighting and rescue operations at the scene of an aircraft accident on the proper preservation of evidence. It explains the need for preservation of evidence and points out some operational actions which may be permitted if performed in the interest of preserving life.

2. CANCELLATION. Advisory Circular 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident, dated August 7, 1969, is cancelled.

3. RELATED READING MATERIAL. Copies of the National Transportation Safety Board's (NTSB) brochure, Civil Aircraft Accident Investigation Guidelines, can be obtained by contacting the National Transportation Safety Board, Office of Government and Public Affairs, 800 Independence Avenue, SW., Washington, D.C. 20594.

4. GENERAL.

a. The cause of an aircraft accident has often been determined from a detailed analysis of the wreckage and the relationship between various aircraft parts and occupants. Therefore, it is essential that wreckage not be indiscriminately moved or damaged during rescue operations. This is not to imply that during rescue or firefighting operations wreckage may not be disturbed if a life is involved or if fire can be further suppressed or extinguished by judicious removal of the wreckage. The governing regulations (NTSB Regulation, Title 49 CFR, Part 830, Par. 830.10(b)) pertaining to the preservation of aircraft wreckage, mail, cargo, and records, allows for the removal of aircraft components, mail, and cargo aboard the aircraft to the extent necessary to:

(1) Remove persons injured or trapped;

(2) Protect the aircraft from further damage; and

(3) Protect the public from injury.

It further states that:

> "Where it is necessary to disturb or move aircraft wreckage, mail or cargo, sketches, descriptive notes, and photographs shall be made, if possible, of the original position and condition of the wreckage and any significant impact marks."

It is not intended to imply that rescue and firefighting operations should be delayed pending the preparation of such sketches or photographs. However, to the best of their ability, the firefighters or rescue personnel should attempt to remember the original location of any wreckage, human bodies, mail, or cargo removed from the accident scene.

b. Typical activities of law enforcement authorities at an accident scene include:

(1) Setting up security so as to allow no one inside the wreckage area other than those necessary for occupant removal, firefighting, or adjusting and removing an article from the wreckage to prevent it from becoming lost or further damaged. In such cases, they should request that the individuals involved document (by photographing or other means) what has been done and why. Example: Removal of a battery from the aircraft to prevent a new fire.

(2) After a fire has been extinguished by firefighters, all personnel inside the secured area should be cautioned to keep their activities around the wreckage to a minimum to prevent unnecessary wreckage disturbance and eradication of valuable evidence, such as ground scars.

c. When aircraft entry doors or emergency exits are jammed or blocked and cannot be used for aircraft occupant escape or rescue, forcible entry into the fuselage is not considered destruction of evidence. Forcible entry includes such actions as forcing exit doors or cutting exits in the fuselage.

5. OPERATIONS.

a. The saving of aircraft occupants' lives is the primary objective. All other considerations, such as preservation of wreckage, must be subordinate to the rescue operations. Therefore, firefighting and rescue personnel in the performance of their primary mission of rescue through fire control or extinguishment should not be hampered or restrained with the restrictions governing the preservation of evidence. However, when rescue and firefighting operations are in the final stages, care should be exercised to avoid unduly disturbing any evidence that may aid in determining the cause of the aircraft accident. Careful preservation of cockpit instruments, controls, and areas of primary structural failure or damage, etc., in their original position is important. Note any changes made.

b. To assure complete fire extinguishment and accountability of all persons, firefighters are expected to make a thorough examination of the aircraft cabin and storage compartments. During these cleanup or securing operations, make special notes or photographs of any moved items.

c. Airport fire departments and security personnel should establish procedures whereby:

(1) Photographic coverage of the accident scene will be accomplished. If airport personnel includes a professional or capable amateur photographer, he or she should be alerted at the same time as the fire department. Otherwise, it may be desirable to prearrange with a commercial photographer for the photographic coverage.

(2) Security of the accident scene is provided until the operator of the aircraft or the NTSB accident investigation team takes custody.

(3) Voice and flight data recorders are located and protected. These items are of vital importance to accident investigations; therefore, if found detached from the aircraft their location should be carefully noted. If attached to the aircraft, they should not be removed except to preserve them from any further fire damage. As a general rule, the voice and flight data recorders are located in the rear of the fuselage. Spherical recorders are painted bright yellow, while rectangular recorders are red or international orange. Once located and secured, the recorders must not be opened or tampered with.

(a) Three typical types of flight data recorders are shown in appendix 1, page 1. Represented are the older metal foil and newer digital magnetic tape recorders. They measure approximately 5" x 8" x 21".

(b) Three typical types of voice recorders are shown in appendix 1, page 2. Represented are the newer digital magnetic tape recorders measuring approximately 5" x 8" x 13".

(c) An outmoded 15" diameter metal foil spherical flight data recorder is shown in appendix 1, page 3.

d. Airport management should ensure that all airport fire department personnel are thoroughly familiar with the reference material listed under paragraph 3. In addition, the principles in this advisory circular should be reflected in departmental operating instructions and included in fire and rescue personnel training programs.

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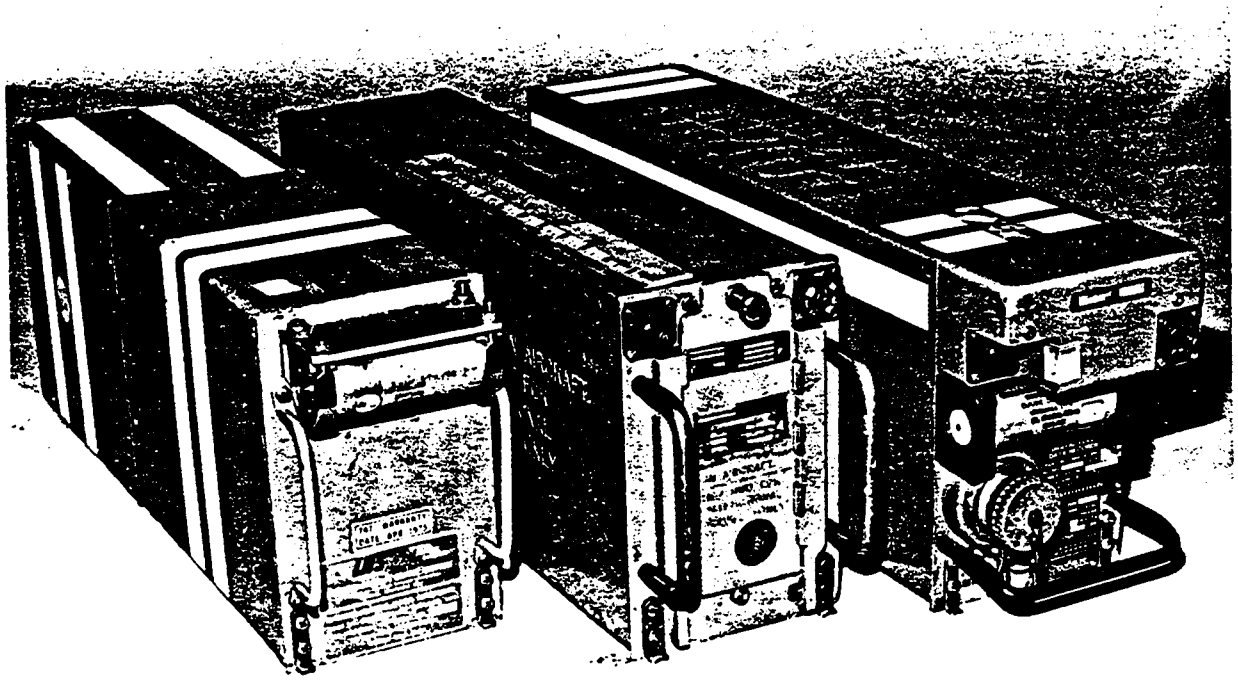

Figure 1. Older metal foil and newer digital magnetic tape flight data recorders.

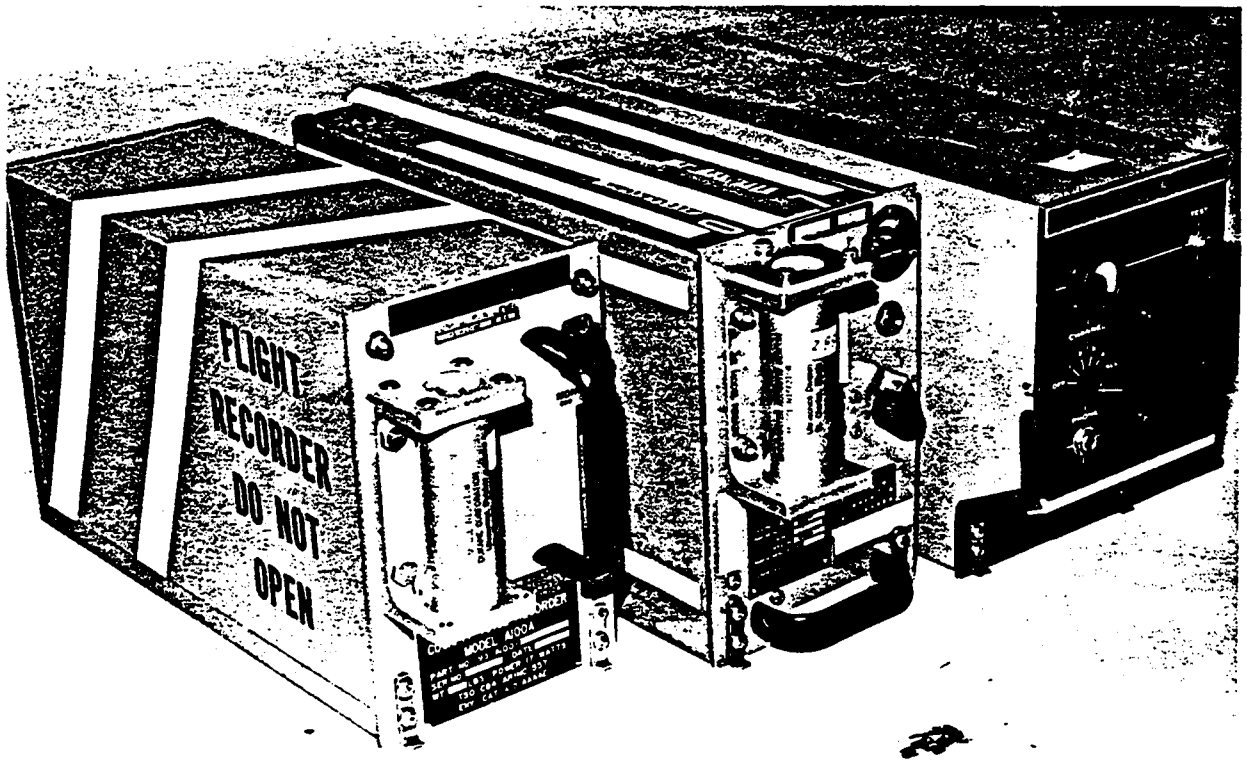

Figure 2. Newer digital magnetic tape voice recorders.

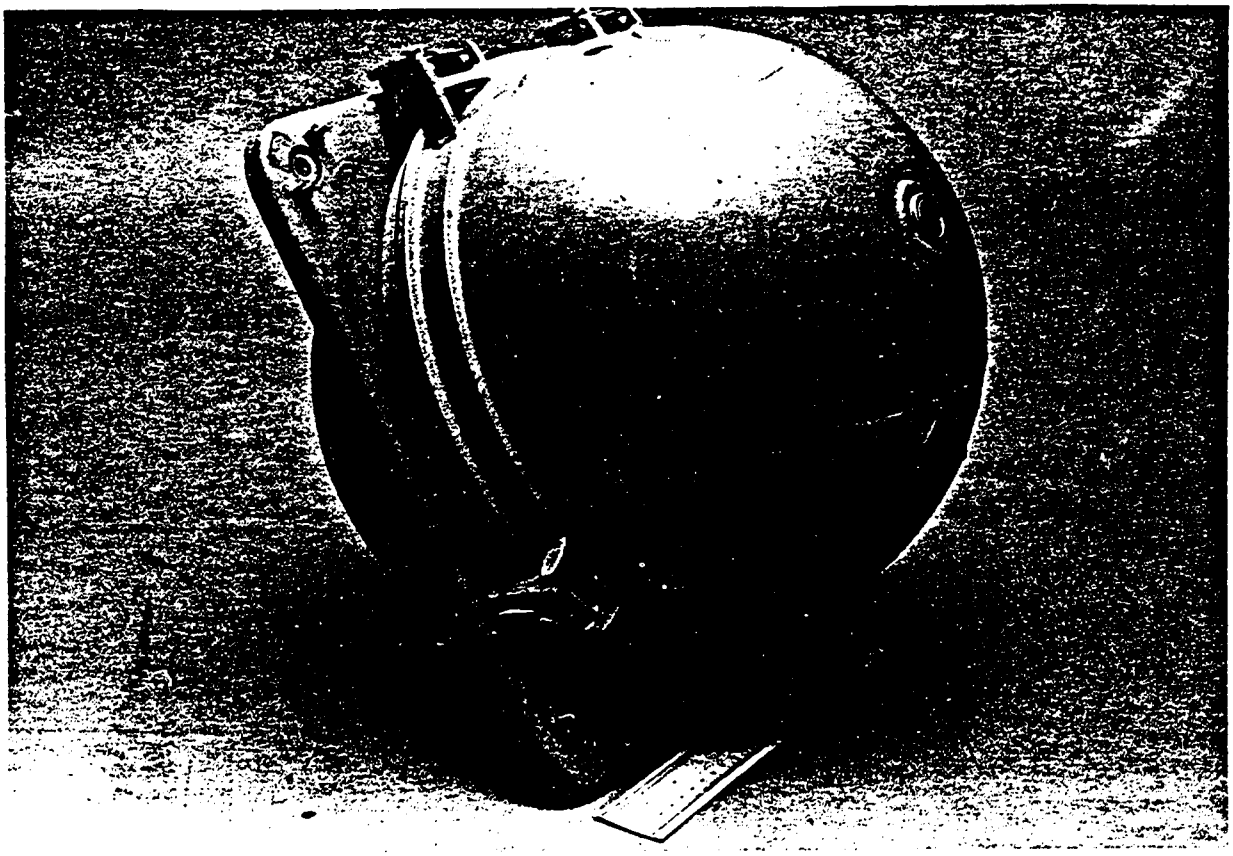

Figure 3. Outmoded metal foil spherical flight data recorder.